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ABSTRACT

The history of the development of the minority program funded through the National Science Foundation is traced in this paper. Types of activities supported by the program are listed, problems addressed by the program are described briefly, and future program development is discussed. (DT)

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MINORITY PROGRAMS FUNDED BY THE NATIONAL SCIENCE FOUNDATION

by
James W. Mayo

"The National Science Foundation is an agency of the Federal Government established in 1950 to advance scientific progress in the United States. The Foundation fulfills this responsibility primarily by sponsoring scientific research encouraging and supporting improvements in science education, and fostering scientific information exchange.

"The Foundation supports scientific research and education projects in the mathematical, physical, medical, biological, social, and engineering sciences."

The activities leading to the minority program developed at NSF was the culmination of some independent efforts at the agency and a part of an overall Federal response to increase assistance to Black colleges.

In 1966 a science development symposium was held by the Foundation on the special problems in developing better science programs at institutions with predominantly Negro enrollments. Staff papers, analysis of ongoing programs, evaluation of possible future activities, and other program development activities followed up through 1969.

In 1969 a meeting was held on Assistance to Developing Institutions and an Advisory Committee on Developing Colleges was formed. It was comprised of representatives from professional societies of biology, chemistry, geology, mathematics, physics; American Association for the Advancement of Science (AAAS); National Science Foundation (NSF); and the developing institutions.

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In 1970 a program of institutional grants for science in the Black colleges was proposed. This formula grant type program was to begin in 1972. This proposal came at a time when this particular support mechanism was on the decline.

The Foundation held meetings with representatives to brief them on ongoing programs and to receive input and recommendations on proposed programs.

The final outcome of these activities was the submission to Congress of a comprehensive program of College Science Improvement approved by the National Science Board and the Administration. This program was established in 1971-72. It was the initial minority-targeted activity at NSF.

The program was implemented as College Science Improvement Program-D (COSIP-D) for historically Black four-year colleges and those funded to serve other disadvantaged minorities. The budget was five million dollars.

"The primary purposes of that activity were to accelerate the development of the undergraduate science capabilities in the historically Negro institutions and to enhance their capacity for self-renewal. The scope of the program was some 85 or so four-year institutions." The program was part of an existing college science improvement program restricted mainly to four-year colleges. In 1973 the Black colleges component expanded the eligibility to two-year institutions.

Except for Dartmouth and Pembroke and institutions recently chartered by Native American Indian nations, most institutions at that time founded to provide education for minorities were Black.

The eligibility criterion requiring that the institution be founded to provide education for disadvantaged ethnic minorities excluded most other institutions. Dartmouth did not fit other criteria.

Further expansion of the eligibility brought in those institutions mainly attended by Blacks, Spanish-speaking. Native Americans, and other disadvantaged ethnic minorities.

Those institutions with predominantly minority enrollments were explicitly targeted in 1974.

The final scope of the program is of the order of 200 institutions enrolling some 400,000 students.

The minority program at NSF was aimed at an identifiable legal target -- the institution. The institution served the target population.

This program has provided support for the following types of activiites:

I. Testing new educational procedures, improving instructional facilities. Designing curricula, local course and curriculum improvements, instructional equipment, faculty development.

II. Traineeships

III. Research Initiation -- Science Research Project Support

Each institution put together a mix of the above elements to meet its objectives.

Some of the problems addressed by the program are:

- How can institutions be assisted in overcoming the effects of institutional isolation and lack of facilities and equipment?
- How can institutions attract and hold promising scientist-scholars, an invaluable component of the strength of institutions?
- How can institutions develop programs that establish effective instructional procedures for preparing students in science?

All of these are elements that contribute to the inadequate access to careers in science for minorities.

In addition to support at individual institutions, cooperative activities are allowed, e.g., broad projects coordinating national resources for enabling faculty at minority institutions to make informative decisions regarding computer equipment, courseware, instructional techniques and the use of computer-based instructional systems that may be employed in improving science education programs.

A similar broad project in educational technology was responsible for providing national expertise for training in the design and production of mediated materials and the use of media hardware in the teaching of science and mathematics.

Other broad coverage activities such as this are currently being designed at the target institutions. The cooperative activities affect the entire eligibility pool.

What about the future? The future program development will require two things (other than dollars):

- Evolution of the universe of institutions, and
- Evolution of models of improvement.

Estimates are given that place the major enrollment of minorities outside of the NSF-targeted institutions.

There is no evidence that the institutions with the greater percentage of enrollment produces the greater percentage of graduates.

To date, in the four years' operation, $20M has been spent on individual and cooperative activities; $4M on Research Initiation; $0.5M on Traineeships, for a total of approximately $24.5M. The outcome in terms of the effect on the numbers is yet to be assessed. The first cycle of three-year projects has just closed.

Prospects of the future: If present priorities remain, there will likely be no reduction of efforts in this area at NSF.